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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,523	08/24/2001	John J. Grabowski	6683.64US01	2437

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MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER

PRIDDY, MICHAEL B

ART UNIT	PAPER NUMBER
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3732

DATE MAILED: 01/05/2004

b

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/939,523

Applicant(s)

GRABOWSKI ET AL.

Examiner

Michael B Priddy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) 9,10,15,23-36,39 and 43-69 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-8,11-14,16-22,37,38 and 40-42 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5&6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of the species of Figs. 1-4, 6, 8, 10, 12-14, 15 & 20 in Paper No. 9 is acknowledged. An action on the merits of the claims corresponding to these species, claims 1-8, 11-14, 16-22, 37, 38 and 40-42, follows.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: claim 5 refers to a ring around the arcuate outer surface of the screw head while there appears to be no reference thereto in the specification.

Claim Objections

Claim 1 is objected to because of the following informalities: in line 8, --the— should be inserted between “wherein” and “one”; and in line 9, “screws” should be – fasteners—and –the-- should be inserted between “within” and “one”.

Claim 6 is objected to because of the following informalities: in lines 1-2, “at least one fastener-receiving aperture comprises a” should be the and in line 2, “having” should be –has--.

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Claim 7 is objected to because of the following informalities: in line 1, --of said— should be inserted between “one” and “fastener-receiving” and in line 2, “aperture” should be --apertures--.

Claim 12 is objected to because of the following informalities: in line 2, --so— should be inserted between “configured” and “secure” and --of said-- should be inserted between “one” and “fastener-receiving”.

Claim 41 is objected to because of the following informalities: in line 11, --the— should be inserted between “in” and “one”.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-7, 11-14, 16-21, 37, 41 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Lyons et al. (U.S. 6,413,259) with reference to Exhibit A. Lyons et al. teaches a bone fixation device 10 comprising: a bone plate 12 comprising-- a bone-contacting surface BS; an upper surface US opposite the bone-contacting surface

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BS; and one or more fastener-receiving apertures 16 extending through the plate 12 from the upper surface US to the bone-contacting surface BS, wherein the fastener-receiving aperture 16 comprises a frustoconical inner surface IS; one or more screws 14 having a head H with an arcuate outer surface OS; and one locking arrangement comprising a locking aperture 18 and locking element 22 having a locking cover LC and a threaded shaft TS configured to mate with a threaded interior TI of the locking aperture 18, wherein the one or more screws 14 are configured to be received within the one or more fastener-receiving apertures 16; wherein the arcuate outer surface contacts the frustoconical inner surface IS of the fastener-receiving aperture 16 during fixation of a bone with the device 10; wherein the frustoconical inner surface IS has a major opening MA including the frustoconical inner surface IS proximate the upper surface US of the plate and a minor opening MI proximate the bone-contacting surface BS; and wherein the locking element 22 is rotatable within the locking aperture 18, has an unlocked position that permits insertion of a screw 14 into the fastener-receiving aperture 16 and a locked position in which the locking cover LC at least partially obstructs the fastener-receiving aperture 16. Concerning the language of claim 5 requiring a ring around the arcuate outer surface of the screw head: in view of the objection to the specification set forth above, the Examiner has interpreted this limitation very broadly and believes that the top-most portion of the head of the fastener 14 of Lyons et al. defines a ring R.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Errico et al. (U.S. 5,876,402) with reference to Exhibit B. Errico et al. teaches a bone

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fixation device comprising: a bone plate 100 comprising-- a bone-contacting surface BS; an upper surface 108 opposite the bone-contacting surface BS; and one or more fastener-receiving apertures 110/112 extending through the plate 100 from the upper surface 108 to the bone-contacting surface BS, wherein the fastener-receiving apertures 110/112 comprise a frustoconical inner surface IS; one or more screws 120 having a head 122 with a spherical outer surface OS; wherein the one or more screws 120 are configured to be received within the one or more fastener-receiving apertures 110/112.

Claims 1, 7, 8, 37, 38 and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Vito (U.S. 5,931,838) with reference to Exhibit C. Vito teaches a bone fixation device, comprising one or more plates 20, each comprising: a bone-contacting surface BS; an upper surface US opposite the bone-contacting surface BS; and one or more fastener-receiving apertures extending through the plate from the upper surface to the bone-contacting surface, wherein at least one fastener-receiving aperture comprises: a major opening 29 proximate the upper surface, wherein the major opening 29 comprises a frustoconical inner surface IS; and a minor opening 28 proximate the bone-contacting surface BS, wherein the minor opening 28 comprises a cylindrical inner surface CS; and one or more screws 10 including a head having an arcuate outer surface OS with a diameter that is greater than a diameter of the minor opening 28, wherein the arcuate outer surface of the screw head is positioned adjacent the frustoconical inner surface IS of the fastener-receiving aperture during fixation of a

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bone with the device, an upper shaft 40 having a diameter that is less than the diameter of the minor opening 28.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lyons et al. in view of Michelson (U.S. 6,193,721). Lyons et al., as set forth above, teaches all of the limitations of the present invention except the plate is concave along a longitudinal axis and a transverse axis.

Michelson teaches an anterior cervical plating system 2 which, as shown in Figs. 3 & 4 and described in lines 30-67 of column 13, is concave along both its longitudinal axis and its transverse axis (referred to as bi-concave). Such a shape will conform more closely to the facing bone surface (lines 59-60 of column 13). It would have been obvious to one of ordinary skill in the art at the time of the present invention to form the bone plate of Lyons et al. such that it was concave along a longitudinal axis and a transverse axis to more closely conform to the facing bone surface of a vertebrae.

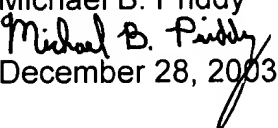
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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Priddy whose telephone number is (703) 308-8620. The examiner can normally be reached on Mon.-Fri. 8 a.m. - 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (703) 308-2582. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9302.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

Michael B. Priddy

December 28, 2003

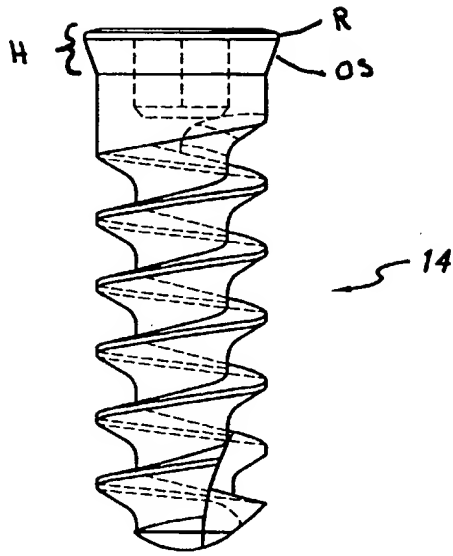


FIG. 6

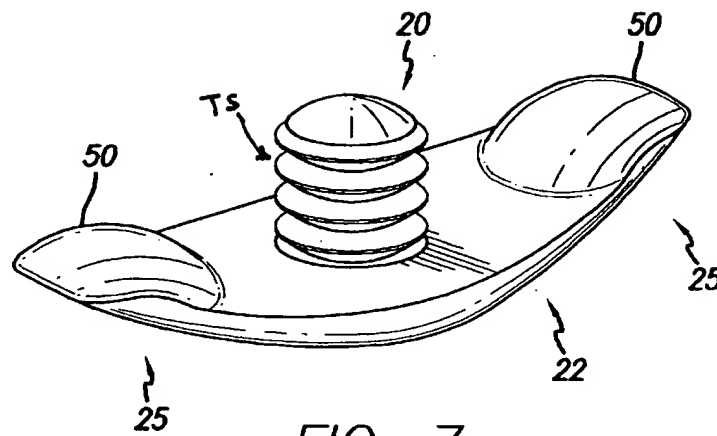


FIG. 7

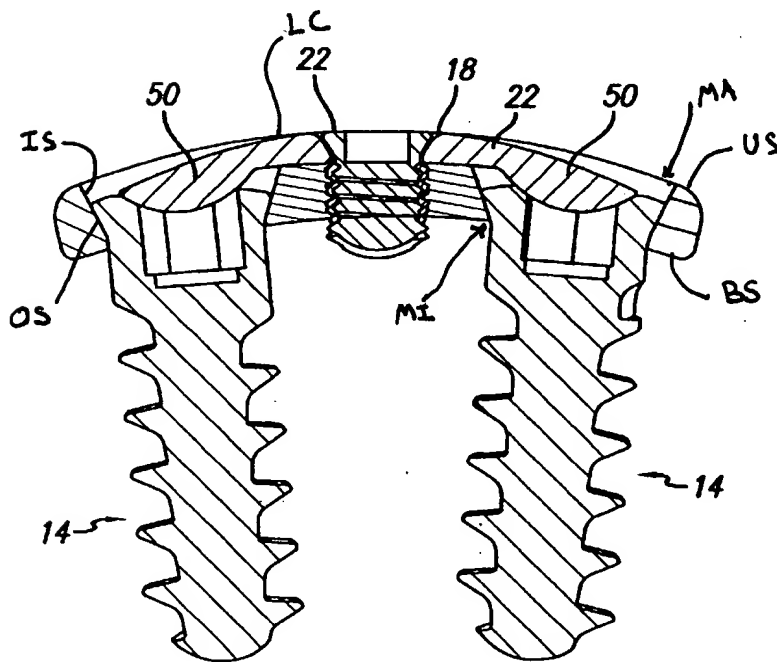


FIG. 8

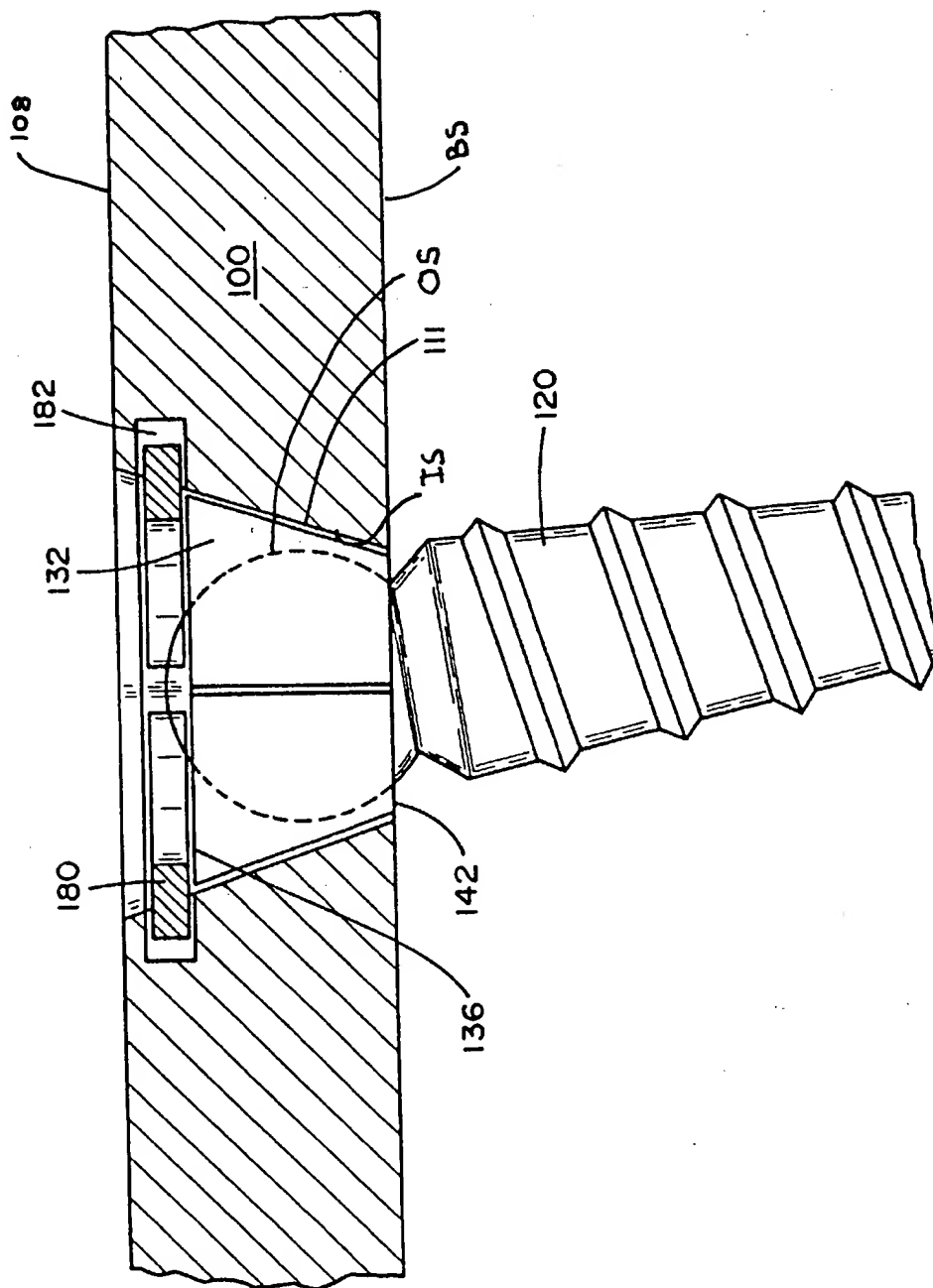


FIG. 6

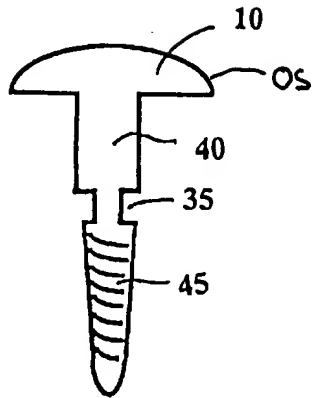


Fig. 1A

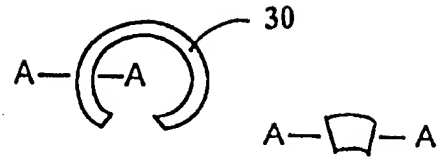


Fig. 1B

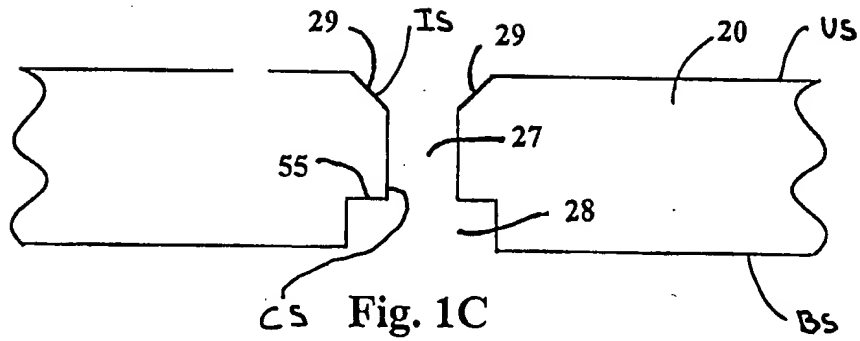


Fig. 1C

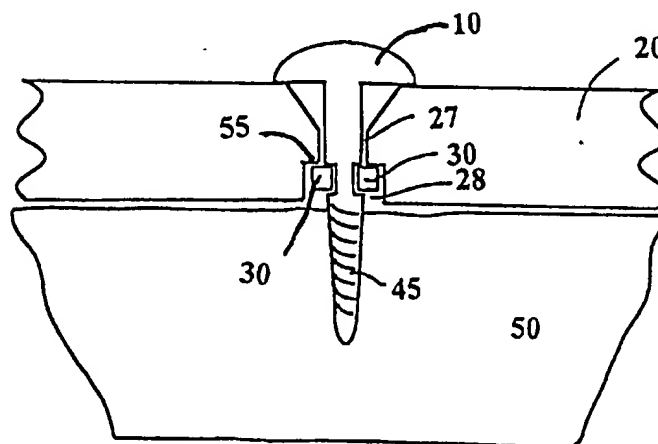


Fig. 1D